UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL EXPOSURE RESEARCH LABORATORY
HUMAN EXPOSURE & ATMOSPHERIC SCIENCES DIVISION (MD-46)
Research Triangle Park, NC 27711
919-541-2622

Office of
Research and Development

LIST OF DESIGNATED REFERENCE AND EQUIVALENT METHODS

Issue Date: **September 15, 1998**

These methods for measuring ambient concentrations of specified air pollutants have been designated as "reference methods" or "equivalent methods" in accordance with Title 40, Part 53 of the Code of Federal Regulations (40 CFR Part 53). Subject to any limitations (e.g., operating range) specified in the applicable designation, each method is acceptable for use in state or local air quality surveillance systems under 40 CFR Part 58 unless the applicable designation is subsequently canceled. Automated methods are acceptable for use at shelter temperatures between 20°C and 30°C and line voltages between 105 and 125 volts unless wider limits are specified in the method description.

Prospective users of the methods listed should note (1) that each method must be used in strict accordance with its associated operation or instruction manual and with applicable quality assurance procedures, and (2) that modification of a method by its vendor or user may cause the pertinent designation to be inapplicable to the method as modified. (See Section 2.8 of Appendix C, 40 CFR Part 58 for approval of modifications to any of these methods by users.)

Further information concerning particular designations may be found in the *Federal Register* notice cited for each method or by writing to the National Exposure Research Laboratory, Human Exposure and Atmospheric Sciences Division (MD-46), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711. Technical information concerning the methods should be obtained by contacting the source listed for each method. Source addresses are listed at the end of the listing of methods, except for the addresses for lead method sources, which are given with the method. New analyzers or PM_{10} samplers sold as reference or equivalent methods must carry a label or sticker identifying them as designated methods. For analyzers or PM_{10} samplers sold prior to the designation of a method with the same or similar model number, the model number does not necessarily identify an analyzer or sampler as a designated method. Consult the manufacturer or seller to determine if a previously sold analyzer or sampler can be considered a designated method or if it can be upgraded to designation status. Analyzer users who experience operational or other difficulties with a designated analyzer or sampler and are unable to resolve the problem directly with the instrument manufacturer may contact EPA (preferably in writing) at the above address for assistance.

This list will be revised as necessary to reflect any new designations or any cancellation of a designation currently in effect. The most current revision of the list will be available for inspection at EPA's Regional Offices, and copies may be obtained by writing to the National Exposure Research Laboratory at the address specified above.

Designations since August 1997

DKK Corporation Model GFS-32 UV Fluorescent SO_2 Analyzer
Horiba Instruments, Inc. Model APSA-360/APSA-360ACE Ambient SO_2 Monitor
BGI Inc. Model PQ200/PQ200A $PM_{2.5}$ Ambient Fine Particle Sampler
Rupprecht & Patashnick, Inc. Partisol®-FRM Model 2000 PM-2.5 Air Sampler
Rupprecht & Patashnick, Inc. Partisol®-Plus Model 2025 PM-2.5 Sequential Air Sampler
Graseby Andersen Model RAAS2.5-100 $PM_{2.5}$ Ambient Air Sampler
Graseby Andersen Model RAAS2.5-300 $PM_{2.5}$ Sequential Ambient Air Sampler
Advanced Pollution Instrumentation, Inc. Model 400A Ozone Analyzer
DKK Corporation Model GLN-114E Nitrogen Oxides Analyzer
Met One Instruments, Inc. Models BAM1020, GBAM1020, BAM1020-1, GBAM1020-1 PM_{10} Beta Attenuation Monitors

OZONE

Advanced Pollution Instrumentation, Inc. Model 400/400A Ozone Analyzer *Automated Equivalent Method:* **EQOA-0992-087**

"Advanced Pollution Instrumentation, Inc. Model 400 or 400A Ozone Analyzer," operated on any full scale range between 0-100 ppb* and 0-1000 ppb, with any range mode (Single, Dual, or AutoRange), at any ambient temperature in the range of 5°C to 40°C, with the dynamic zero and span adjustment feature (some Model 400 units only) set to OFF, with a 5-micron TFE filter element installed in the rear-panel filter assembly, and with or without any of the following options: Zero/Span Valve option, Internal Zero/Span (IZS) option, IZS ozone generator reference feedback option, standard serial port or Multi-drop RS-232, digital status outputs, analog outputs: 100 mV, 1 V, 5 V, 10 V, 4-20 mA current loop, optional metal wool ozone scrubber, optional external sample pump, optional 47 mm diameter filter, optical bench heater, rack mount with slides. [*Federal Register:* Vol 63, page 31992, 06/11/98]

Beckman Model 950A Ozone Analyzer *Automated Reference Method:* **RFOA-0577-020**

"Beckman Model 950A Ozone Analyzer," operated on a range of 0-0.5 ppm and with the "SLOW" (60 second) response time, with or without any of the following options: Internal Ozone Generator; Computer Adaptor Kit; Pure Ethylene Accessory.

[*Federal Register:* Vol 42, page 28571, 06/03/77]

Bendix or Combustion Engineering Model 8002 Ozone Analyzer *Automated Reference Method:* **RFOA-0176-007**

"Bendix or Combustion Engineering Model 8002 Ozone Analyzer", operated on the 0-0.5 ppm range, with a 40 second time constant, with or without any of the following options: Rack Mounting With Chassis Slides; Rack Mounting Without Chassis Slides; Zero And Span Timer; Ethylene/CO_2 Blend Reactant Gas.

[*Federal Register:* Vol 41, page 5145, 02/04/76 and Vol 45, page 18474, 03/21/80]

Columbia Scientific Industries Model 2000 Ozone Meter *Automated Reference Method:* **RFOA-0279-036**

"Columbia Scientific Industries Model 2000 Ozone Meter," when operated on the 0-0.5 ppm range with either AC or battery power: The BCA 952 battery charger/AC adapter M952-0002 (115V) or M952-0003 (230V) is required for AC operation; an internal battery M952-0006 or 12 volt external battery is required for portable non-AC powered operation.

[*Federal Register:* Vol 44, page 10429, 02/20/79]

Dasibi Models 1003-AH, 1003-PC, or 1003-RS Ozone Analyzers *Automated Equivalent Method:* **EQOA-0577-019**

"Dasibi Model 1003-AH, 1003-PC, or 1003-RS Ozone Analyzer," operated on a range of either 0-0.5 or 0-1.0 ppm, with or without any of the following options: Adjustable Alarm; Aluminum Coated Absorption Tubes, Integrated Output; Vycor-Jacketed U.V. Source Lamp; BCD Digital Output; Rack Mounting Ears And Slides; 0-10 mV, 0-100 mV, 0-1 V, Or 0-10 V; Glass (Pyrex) Absorption Tubes; Teflon-based Solenoid Valve; Analog Output. [*Federal Register:* Vol 42, page 28571, 06/03/77]

Dasibi Models 1008-AH, 1008-PC, or 1008-RS Ozone Analyzers *Automated Equivalent Method:* **EQOA-0383-056**

"Dasibi Model 1008-AH, 1008-PC, or 1008-RS Ozone Analyzer," operated on a range of either 0-0.5 or 0-1.0 ppm, with or without any of the following options: Aluminum Coated Absorption Tubes; BCD Digital Output; RS232 Interface; Glass (Pyrex) Absorption Tubes; Vycor-Jacketed U.V. Source Lamp; Ozone Generator; Teflon-based Solenoid Valve; Photometer Flow Restrictor (2 LPM); 4-20 mA, Isolated, Or Dual Analog Outputs; Rack Mounting Brackets Or Slides; 20 Second Update Software.

[*Federal Register:* Vol 48, page 10126, 03/10/83]

Environics Series 300 Ozone Analyzer *Automated Equivalent Method:* **EQOA-0990-078**

"Environics Series 300 Computerized Ozone Analyzer," operated on the 0-0.5 ppm range, with the following parameters entered into the analyzer's computer system: Absorption Coefficient = *308* ± *4*; Flush Time = *3*; Integration Factor = *1*; Offset Adjustment = *0.025 ppm*; Ozone Average Time = *4*; Signal Average = *0*; Temp/Press Correction = *On*; and with or without the RS-232 Serial Data Interface.

[*Federal Register:* Vol 55, page 38386, 09/18/90]

Environnement S.A. Model $O_3$41M UV Ozone Analyzer *Automated Equivalent Method:* **EQOA-0895-105**

"Environnement S.A. Model $O_3$41M UV Photometric Ozone Analyzer," operated on a full scale range of 0 - 500 ppb, at any temperature in the range of 15 °C to 35 °C, with the response time set to 50 seconds, and with or without any of the following options: [2] Internal Ozone Generator; Span External Control; RS232-422 Serial Interface; Internal Printer.

[*Federal Register*: Vol. 60, page 39382, 08/02/95]

Horiba Instruments Model APOA-360 Ozone Monitor *Automated Equivalent Method:* **EQOA-0196-112**

"Horiba Instruments, Inc. Model APOA-360 Ambient Ozone Monitor," operated with a full scale range of 0 - 0.50 ppm, at any temperature in the range of 10 °C to 40 °C, with a Line Setting of "MEASURE", and an Analog Output of "MOMENTARY VALUE", and with or without the following options: [2] 1) Rack Mounting Plate and Side Rails 2) RS-232 Communications Port. [*Federal Register*: Vol. 61, page 11404, 03/20/96]

McMillan (MEC) Models 1100-1, 1100-2, and 1100-3 Ozone Meters

"MEC Model 1100-1 Ozone Meter," *Automated Reference Method:* **RFOA-1076-014**
"MEC Model 1100-1 Ozone Meter," *Automated Reference Method:* **RFOA-1076-015**
"MEC Model 1100-1 Ozone Meter," Automated Reference Method: **RFOA-1076-016**
operated on a 0-0.5 ppm range, with or without any of the following options: 0011 Rack Mounting Ears; 0026 Alarm Set Feature; 0012 Instrument Bail; 0033 Local-Remote Sample; Zero, Span Kit Blend Feature; 0016 Chassis Slide Kit; 0040 Ethylene/CO_2.

[*Federal Register:* Vol 41, page 46647, 10/22/76 and Vol 42, page 30235, 06/13/77]

Meloy Model OA325-2R Ozone Analyzer *Automated Reference Method:* **RFOA-1075-003**
"Meloy Model OA325-2R Ozone Analyzer,"operated with a scale range of 0-0.5 ppm, with or without any of the following options:
0-4 Output Booster Amplifier; 0-18 Rack Mount Conversion; 0-18A Rack Mount Conversion.

[*Federal Register:* Vol 40, page 54856, 11/26/75]

Meloy Model OA350-2R Ozone Analyzer *Automated Reference Method:* **RFOA-1075-004**
"Meloy Model OA350-2R Ozone Analyzer," operated with a scale range of 0-0.5 ppm, with or without any of the following options:
0-2 Automatic Zero And Span; 0-3 Remote Control Zero And Span; 0-4 Output Booster Amplifier; 0-18 Rack Mount Conversion; 0-18A Rack Mount Conversion. [*Federal Register:* Vol 40, page 54856, 11/26/75]

Monitor Labs Model 8410E Ozone Analyzer *Automated Reference Method:* **RFOA-1176-017**
"Monitor Labs Model 8410E Ozone Analyzer," operated on a range of 0-0.5 ppm with a time constant setting of 5 seconds, with or without any of the following options: DO Status Outputs; ER Ethylene Regulator Assembly; V TFE Zero/Span Valves; TF TFE Sample Particulate Filter; VT TFE Zero/Span Valves And Timer. [*Federal Register:* Vol 41, page 53684, 12/08/76]

Monitor Labs/Lear Siegler Model 8810 Ozone Analyzer *Automated Equivalent Method:* **EQOA-0881-053**
"Monitor Labs or Lear Siegler Model 8810 Photometric Ozone Analyzer," operated on a range of either 0-0.5 or 0-1.0 ppm, with selectable electronic time constant settings from 20 through 150 seconds, with or without any of the following options: 05 Pressure Compensation; 06 Averaging Option; 07 Zero/Span Valves; 08 Internal Zero/Span (Valve And Ozone Source); 09 Status; 10 Particulate Filter; 15 through 20 DAS/REC Output. [*Federal Register:* Vol 46, page 52224, 10/26/81]

Monitor Labs/Lear Siegler Models ML9810, ML9811, or ML9812, *Automated Equivalent Method:* **EQOA-0193-091**
Monitor Labs Model ML9810B, or Wedding & Associates Model 1010 Ozone Analyzers

"Lear Siegler Measurement Controls Corporation Model ML9810 or Monitor Labs Models ML9810, ML9811, or ML9812, Monitor Labs Model 9810B, or Wedding & Associates, Inc. Model 1010 Ozone Analyzers," operated on any full scale range between 0-0.05 ppm[1] and 0-1.0 ppm, at any temperature in the range of 15°C to 35°C, with the service switch on the secondary panel set to the *In* position; with the following menu choices selected: Range: *0.05 ppm* to *1.0 ppm;* Over-ranging: *Enabled* or *Disabled*; Calibration: *Manual* or *Timed*; Diagnostic Mode: *Operate*; Filter Type: *Kalman*; Pres/Temp/Flow Comp: *On*; Span Comp: *Disabled*; and as follows: **Models ML9810, ML9811, and ML9812** - with a five-micron Teflon® filter element installed internally, with the 50-pin I/O board installed on the rear panel configured at any of the following output range settings: Voltage, 0.1 V, 1 V, 5 V, 10 V; Current, 0-20 mA, 2-20 mA, 4-20 mA; and with or without any of the following options: Valve Assembly for External Zero/Span(EZS); Rack Mount Assembly; Internal Floppy Disk Drive. **Models ML9810B and 1010** - with either a vendor-supplied or equivalent user-supplied five micron Teflon® filter and exhaust pump, and with or without any of the following options: Valve Assembly for External Zero/Span (EZS); Rack Mount Assembly; 50-pin I/O board; Internal Zero/Span Assembly (IZS).

[*Federal Register:* Vol 58, page 6964, 02/03/93]

Opsis Model AR 500 and System 300 Open Path Ambient Air Monitoring Systems for Ozone *Automated Equivalent Method:* **EQOA-0495-103**

"Opsis Model AR 500 System" or "System 300" Open Path (long path) Ambient Air Monitoring Systems, configured for measuring O_3, with one detector and moveable grating, operated with a measurement range of 0 to 0.5 ppm, an installed monitoring path length between 20 and 500 meters (or 20 and 1000 meters with the ER 150 option, AR 500 System only), xenon lamp type B (150 watt), fiber optic cable length between 3 to 20 meters; operating within an ambient air temperature range of -50 to +50°C, an analyzer temperature range of 20 to 30°C, a measurement (integrating) time setting between 30 and 120 seconds (0 min:30 sec. to 2 min:00 sec.), and with a complete cycle time of not more than 200 seconds (3 min, 20 sec.). Under this method designation, the Model AR 500 System or System 300 consists of: AR 500 opto-analyser; emitter EM 110 and receiver RE 110 (together identified as ER 110); optic fibre cable OF60-S; power supply PS 150, OPSIS operational software, version 7.0 or 7.1; and initial on-site installation, setup, and limited operator training.[2]

Optional components that can be used with the Model AR 500 only, in addition to or as alternative to corresponding components listed above:

AR 503 opto-analyzer configured as Model AR 500 (only the center detector active, sequential monitoring)
Emitter/receiver ER 150 (for monitoring path lengths up to 1 kilometer)
Transceiver ER 130 and Retroreflector RE 090 with:
7 prisms (max. monitoring path length 150 meters) or
12 prisms (max. monitoring path length 250 meters)
Receiver RE 130
Optic fibre cable OF60-R (low-loss for short wave lengths)
Multiplexers MX 004 and MX 024
Dataloggers DL 010 and DL 016
Analogue and digital input/output cards AO 008, AI 016, and DI 032
Analogue and digital isolation cards IA 008, ID 008, OA 008, and OD 008,
Window heaters HF 110 and HF 150
Mirror heaters HM 110 and HM 150
Auto calibration unit CU 007
Software packages IO 80 (for the analogue and digital input/output adapters), DL10 and DL16 (for data loggers), ComVision, and STAT 500;

Recommended calibration and accuracy audit components (or equivalent) for either Model AR 500 or Sysem 300:

Wavelength calibration lamp CA 004
Calibration bench CB 100
Receiver unit RE 060 (two required)
Calibration unit CA 150, with same type lamp as used in the monitoring path emitter
Power supply PS 150 for calibration unit CA 150
Calibration cells CC 001-X, where X represents various cell lengths from 1 to 900 mm
Special calibration cells CC 110 or CC 150 (for mounting directly on receiver)
Ozone generator OC 500
Light meter LM 010.

Federal Register: Vol. 60, page 21518, 05/02/1995]

PCI Ozone Corporation Model LC-12 Ozone Analyzer *Automated Equivalent Method:* **EQOA-0382-055**

"PCI Ozone Corporation Model LC-12 Ozone Analyzer," operated on a range of 0-0.5 ppm.

[*Federal Register:* Vol 47, page 13572, 03/31/82]

Philips PW9771 03 Analyzer *Automated Equivalent Method:* **EQOA-0777-023**

"Philips PW9771 03 Analyzer," consisting of the following components: PW9771/00 03 Monitor with PW9724/00 Disc.-Set; PW9750/00 Supply Cabinet; PW9750/20 Supply Unit operated on a range of 0-0.5 ppm, with or without any of the following accessories: PW9732/00 Sampler Line Heater; PW9750/30 Frame For MTT; PW9750/41 Control Clock 60 Hz; PW9733/00 Sampler; PW9752/00 Air Sampler Manifold. [*Federal Register:* Vol 42, page 38931, 08/01/77; Vol 42, page 57156, 11/01/77]

Thermo Electron/Thermo Environmental Instruments Models 49, 49C *Automated Equivalent Method:* **EQOA-0880-047**

"Thermo Electron or Thermo Environmental Instruments, Inc. Model 49 U.V. Photometric Ambient O_3 Analyzer" operated on a measurement range of either 0-0.5 or 0-1.0 ppm with or without any of the following options:

49-001 Teflon Particulate Filter
49-002 19 Inch Rack Mount
49-100 Internal Ozone Generator for Zero, Precision, and Level 1 Span Check
49-103 Internal Ozone Generator for Zero, Precision, and Level 1 Span Checks With Remote Activation
49-488 GPIB (General Purpose Interface Bus) IEEE-488

"Thermo Electron or Thermo Environmental Instruments, Inc. Model 49C U.V. Photometric Ambient O_3 Analyzer" operated on any measurement range between 0-0.05[1] to 1.0 ppm with any time average setting between 10 and 300 seconds, with the temperature and/or pressure compensation on or off, with or without any of the following options: [2]

100 Teflon particulate filter
200 Carrying Handle
210 Rack mounts
340 Internal Ozonator
350 Internal Ozonator with Remote I/O Activation
420 Internal Zero Air Scrubber
610 4-20 mA current output
730 RS-232 Interface
780 RS-485 Interface

[*Federal Register:* Vol 45, page 57168, 08/27/80]

NOTES

[1] Users should be aware that designation of this analyzer for operation on ranges less than the range specified in the performance specifications for this analyzer (40 CFR 53, Subpart B) is based on meeting the same absolute performance specifications required for the specified range. Thus, designation of these lower ranges does not imply commensurably better performance than that obtained on the specified range.

[2] This analyzer is approved for use, with proper factory configuration, on either 50 or 60 Hertz line frequency and nominal power line voltages of 115 Vac and 220 Vac.

Sources or Contacts for Designated Reference and Equivalent Methods

ABB Process Analytics
P.O. Box 831
Lewisburg, WV 24901
(304) 647-4358

Advanced Pollution
Instrumentation, Inc.
6565 Nancy Ridge Drive
San Diego, CA 92121-2251
(619) 657-9800

ASARCO Incorporated
3422 South 700 West
Salt Lake City, UT 84119
(801) 262-2459

Beckman Instruments, Inc.
Process Instruments Division
2500 Harbor Blvd.
Fullerton, CA 92634
(714) 871-4848

Bendix
[Refer to ABB Process Analytics]

BGI Incorporated
58 Guinan Street
Waltham, MA 02154

Columbia Scientific Industries
11950 Jollyville Road
Austin, TX 78759
(800) 531-5003

Combustion Engineering
[Refer to ABB Process Analytics]

Dasibi Environmental Corp.
506 Paula Avenue
Glendale, CA 91201
(818) 247-7601

DKK Corporation
4-13-14 Kichijoji Kitamachi,
Musashino-shi
Tokyo, 180, Japan

Environnement S.A
111, bd Robespierre
78300 Poissy, France
Instruments also available from:
Altech/Environnement U.S.A.
7206 Impala Drive
Richmond, VA 23228
(804) 262- 4447
kchaffee@altechusa.com

Environics, Inc.
69 Industrial Park Rd. E.
Tolland, CT 06084-2805
(203) 429-0077

Andersen Instruments
500 Technology Court
Smyrna, GA 30082-9211
(800) 241-6898

Graseby GMW
[Refer to Andersen Instruments]

Horiba Instruments Incorporated
17671 Armstrong Avenue
Irvine, CA 92714
(800) 446-7422

Lear Siegler
[Refer to Monitor Labs, Inc.]

Commonwealth of Massachusetts
Department of Environmental
Quality Engineering
Tewksbury, MA 01876

Met One Instruments, Inc.
1600 Washington Blvd.
Grants Pass, OR 97526

McMillan
[Refer to Columbia Scientific Industries]

Mine Safety Appliances
600 Penn Center Blvd.
Pittsburgh, PA 15235-5810
(412) 273-5101

Monitor Labs, Inc.
74 Inverness Drive
Englewood, CO 80112-5189
(800) 422-1499

Opsis AB, Furulund, Sweden
Instruments also available from:
Opsis, Inc.
146-148 Sound Beach Avenue
Old Greenwich, CT 06870
(203) 698-1810

State of Oregon
Department of Environmental Quality
Air Quality Division
811 S.W. Sixth Avenue
Portland, OR 97204

PCI Ozone Corp.
One Fairfield Crescent
West Caldwell, NJ 07006
(201) 575-7052

Phillips Electronic Instruments, Inc.
85 McKee Drive
Mahwah, NJ 07430

Rupprecht & Patashnik Co.,Inc.
25 Corporate Circle
Albany, NY 12203
(518) 452-0065

Thermo Environmental Instruments,
Inc.
8 West Forge Parkway
Franklin, MA 02038
(508) 520-0430

U.S. EPA
National Exposure Research Laboratory
Human Exposure & Atmospheric
Sciences Division
MD-46
Research Triangle Park, NC 27711
(919) 541- 2622

Wedding and Associates, Inc.
[Refer to Thermo Environmental
Instruments, Inc.]

U.S. EPA REFERENCE & EQUIVALENT METHODS FOR AMBIENT AIR

June 15, 1998

Method	Designation Number	Method Code
SO_2 Manual Methods		
Reference method (pararosaniline)	--	097
Technicon I (pararosaniline)	EQS-0775-001	097
Technicon II (pararosaniline)	EQS-0775-002	097
SO_2 Analyzers		
Advanced Pollution Instr. 100	EQSA-0990-077	077
Advanced Pollution Instr. 100A	EQSA-0495-100	100
Asarco 500	EQSA-0877-024	024
Beckman 953	EQSA-0678-029	029
Bendix 8303	EQSA-1078-030	030
Columbia Scientific Industries 5700	EQSA-0494-095	095
Dasibi 4108	EQSA-1086-061	061
DKK Corp, Model GFS-32	EQSA-0701-115	115
Environnement S.A. AF21M	EQSA-0292-084	084
Horiba Model APSA-360/APSA-360ACE	EQSA-0197-114	114
Lear Siegler AM2020	EQSA-1280-049	049
Lear Siegler SM1000	EQSA-1275-005	005
Lear Siegler or Monitor Labs ML9850, Monitor Labs ML9850B, Wedding 1040	EQSA-0193-092	092
Meloy SA185-2A	EQSA-1275-006	006
Meloy SA285E	EQSA-1078-032	032
Meloy SA700	EQSA-0580-046	046
Monitor Labs 8450	EQSA-0876-013	513
Monitor Labs or Lear Siegler 8850	EQSA-0779-039	039
Monitor Labs or Lear Siegler 8850S	EQSA-0390-075	075
Opsis AR 500, System 300 (open path)	EQSA-0495-101	101
Philips PW9700	EQSA-0876-011	511
Philips PW9755	EQSA-0676-010	010
Thermo Electron 43	EQSA-0276-009	009
Thermo Electron 43A or Thermo Environmental Instruments 43B, 43C	EQSA-0486-060	060
O_3 Analyzers		
Advanced Pollution Instr. 400/400A	EQOA-0992-087	087
Beckman 950A	RFOA-0577-020	020
Bendix 8002	RFOA-0176-007	007
Columbia Scientific Industries 2000	RFOA-0279-036	036
Dasibi 1003-AH,-PC,-RS	EQOA-0577-019	019
Dasibi 1008-AH	EQOA-0383-056	056
Environics 300	EQOA-0990-078	078
Environnement S.A. $O_3$41M	EQOA-0895-105	105
Horiba APOA-360	EQOA-0196-112	112
Lear Siegler or Monitor Labs ML9810, Monitor Labs ML9810B, Wedding 1010	EQOA-0193-091	091
McMillan 1100-1	RFOA-1076-014	514
McMillan 1100-2	RFOA-1076-015	515
McMillan 1100-3	RFOA-1076-016	016
Meloy OA325-2R	RFOA-1075-003	003
Meloy OA350-2R	RFOA-1075-004	004
Monitor Labs 8410E	RFOA-1176-017	017
Monitor Labs or Lear Siegler 8810	EQOA-0881-053	053
Opsis AR 500, System 300 (open path)	EQOA-0495-103	103
PCI Ozone Corp. LC-12	EQOA-0382-055	055
Philips PW9771	EQOA-0777-023	023
Thermo Electron or Thermo Environmental Instruments 49, 49C	EQOA-0880-047	047
CO Analyzers		
Advanced Pollution Instr. 300	RFCA-1093-093	093
Beckman 866	RFCA-0876-012	012
Bendix 8501-5CA	RFCA-0276-008	008
Dasibi 3003	RFCA-0381-051	051
Dasibi 3008	RFCA-0488-067	067
Environnement s.a. CO11M	RFCA-0995-108	108
Horiba AQM-10, -11, -12	RFCA-1278-033	033
Horiba 300E/300SE	RFCA-1180-048	048
Horiba APMA-360	RFCA-0895-106	106
Lear Siegler or Monitor Labs ML9830, Monitor Labs ML9830B, Wedding 1020	RFCA-0992-088	088
MASS - CO 1 (Massachusetts)	RFCA-1280-050	050
Monitor Labs 8310	RFCA-0979-041	041
Monitor Labs or Lear Siegler 8830	RFCA-0388-066	066
MSA 202S	RFCA-0177-018	018
Thermo Electron or Thermo Environmental Instruments 48, 48C	RFCA-0981-054	054
NO_2 Manual Methods		
Sodium arsenite (orifice)	EQN-1277-026	084
Sodium arsenite/Technicon II	EQN-1277-027	084
TGS-ANSA (orifice)	EQN-1277-028	098
NO_2 Analyzers		
Advanced Pollution Instr. 200	RFNA-0691-082	082
Advanced Pollution Instr. 200A	RFNA-1194-099	099
Beckman 952A	RFNA-0179-034	034
Bendix 8101-B	RFNA-0479-038	038
Bendix 8101-C	RFNA-0777-022	022
Columbia Scientific Indust.1600, 5600	RFNA-0977-025	025
Dasibi 2108	RFNA-1192-089	089
DKK Corp GLN-114E	RFNA-0798-121	121
Environnement S.A. AC31M	RFNA-0795-104	104
Horiba APNA-360	RFNA-0196-111	111
Lear Siegler or Monitor Labs ML9841, ML9841A, Monitor Labs ML9841B, Wedding 1030	RFNA-1292-090	090
Meloy NA530R	RFNA-1078-031	031
Monitor Labs 8440E	RFNA-0677-021	021
Monitor Labs or Lear Siegler 8840	RFNA-0280-042	042
Monitor Labs or Lear Siegler 8841	RFNA-0991-083	083
Opsis AR 500, System 300 (open path)	EQNA-0495-102	102
Philips PW9762/02	RFNA-0879-040	040
Thermo Electron or Thermo Environmental Instruments 14B/E	RFNA-0179-035	035
Thermo Electron or Thermo Environmental Instruments 14D/E	RFNA-0279-037	037
Thermo Environmental Instr. 42, 42C	RFNA-1289-074	074
Pb Manual Methods		
Reference method (hi-vol/AA spect.)	--	803
Hi-vol/AA spect. (alt. extr.)	EQL-0380-043	043
Hi-vol/Energy-disp XRF (TX ACB)	EQL-0783-058	058
Hi-vol/Energy-disp XRF (NEA)	EQL-0589-072	072
Hi-vol/Flameless AA (EMSL/EPA)	EQL-0380-044	044
Hi-vol/Flameless AA (Houston)	EQL-0895-107	107
Hi-vol/Flameless AA (Omaha)	EQL-0785-059	059
Hi-vol/ICAP spect. (Doe Run Co.)	EQL-0196-113	113
Hi-vol/ICAP spect. (EMSL/EPA)	EQL-0380-045	045
Hi-vol/ICAP spect. (Illinois)	EQL-1193-094	094
Hi-vol/ICAP spect. (Kansas)	EQL-0592-085	085
Hi-vol/ICAP spect. (Montana)	EQL-0483-057	057
Hi-vol/ICAP spect. (NE&T)	EQL-1188-069	069
Hi-vol/ICAP spect. (New Hampshire)	EQL-1290-080	080
Hi-vol/ICAP spect. (Pennsylvania)	EQL-0592-086	086
Hi-vol/ICAP spect. (Pima Co.,AZ)	EQL-0995-109	109
Hi-vol/ICAP spect. (Pima Co.,AZ)	EQL-0995-110	110
Hi-vol/ICAP spect. (Rhode Island)	EQL-0888-068	068
Hi-vol/ICAP spect. (Silver Val. Labs)	EQL-1288-070	070
Hi-vol/ICAP spect. (West Virginia)	EQL-0694-096	096
Hi-vol/WL-disp. XRF (CA A&IHL)	EQL-0581-052	052
PM_{10} Samplers		
Rupprecht & Patashnick Partisol 2000	RFPS-0694-098	098
Oregon DEQ Medium volume sampler	RFPS-0389-071	071
Sierra-Andersen/GMW 1200	RFPS-1287-063	063
Sierra-Andersen/GMW 321-B	RFPS-1287-064	064
Sierra-Andersen/GMW 321-C	RFPS-1287-065	065
Sierra-Andersen/GMW 241 Dichot.	RFPS-0789-073	073
W&A/Thermo Electron Mod 600 HVL	RFPS-1087-062	062
PM_{10} Analyzers		
Met One BAM1020, GBAM1020, BAM1020-1, GBAM1020-1	EQPM-0798-122	122
Andersen Instruments Beta FH62I-N	EQPM-0990-076	076
R & P TEOM 1400, 1400a	EQPM-1090-079	079
W&A/Thermo Electron 650 Beta Gauge	EQPM-0391-081	081
$PM_{2.5}$ Samplers		
BGI PQ200/200A	RFPS-0498-116	116
Ruppert & Patasnick Partisol-FRM 2000	RFPS-0498-117	117
Ruppert & Patasnick Partisol-Plus 2025	RFPS-0498-118	118
Graseby Andersen RAAS2.5-100	RFPS-0598-119	119
Graseby Andersen RAAS2.5-300	RFPS-0598-120	120
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